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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,160	04/13/2004	Kiyokazu Ohtaki	27,702 USA	4547

23307 7590 05/03/2006

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EXAMINER	
YANG, CLARA I	

ART UNIT	PAPER NUMBER
2612	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/823,160	OHTAKI ET AL.	
	Examiner	Art Unit	
	Clara Yang	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *7 and 17-23* is/are allowed.

6)☒ Claim(s) *1-4 and 8-16* is/are rejected.

7)☒ Claim(s) *5 and 6* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 April 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to because of minor informalities:

- Figs. 1 and 6 - "Request Signal" is misspelled.
- Fig. 3 - The figure shows transmittable area 42 in the part of ornamental surface 32a having decorative plating 40. Transmittable area 42 behind decorative plating 40 should be removed, because the applicant teaches that transmittable areas 42 are formed in parts of ornamental surface 32a without decorative plating 42. Furthermore, ornamental surface 32a needs to be added between decorative plating 40 and decorative cap 32, because ornamental surface 32a, as shown in Fig. 2, is continuous and serves as a base for decorative plating 40 (see page 13 of the specification, lines 32-33 and page 14, lines 1-30).
- Figs. 4 and 5 – Like Fig. 3, ornamental surface 32a needs to be added between decorative plating 40 and decorative cap 32, because ornamental surface 32a, as shown in Fig. 2, is continuous and serves as a base for decorative plating 40 (see page 13 of the specification, lines 32-33 and page 14, lines 1-30).

3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the

filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 1 and 7 are objected to because of informalities:

- Claim 1 - Change "connection to an actuator" (see line 4) to "connected to an actuator."
- Claim 7 - Change "the transmittable area being formed in a part of the decorative member that excludes the ornamental surface" (see page 28, line 33 and page 29, lines 1-2) to "the transmittable area being formed in a part of the ornamental surface without decorative plating."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 calls for a decorative member surrounding an operation switch and having an ornamental surface and a transmittable area formed in a section of the decorative member lacking an ornamental surface. The limitation "a transmittable area formed in a section of the decorative member lacking an ornamental surface" contradicts the applicant's teachings. As shown in Fig. 2, the applicant's decorative cap 32 includes ornamental surface 32a continuously

surrounding push button 31 and covering antenna coil 17. In other words, decorative cap 32 lacks any gaps in ornamental surface 32a. In addition, the applicant teaches that a transmittable area 42 is formed in parts of ornamental surface 32a lacking decorative plating 40 (see page 14, lines 12-20). Likewise, claim 2 also contradicts the applicant's teachings. Claim 2 requires that the decorative member include decorative plating and that the transmittable area is formed in a part of the decorative member excluding the decorative plating. The applicant teaches, though, covering ornamental surface 32a with decorative plating 40 (see page 13, lines 32-33 and page 14, lines 1-6). The applicant adds that ornamental surface 32a has areas without decorative plating 40 and that these areas form transmittable areas 42 (see page 14, lines 12-30). Consequently, the examiner considers claim 1 to call for "a communication means arranged adjacent to the decorative member...wherein the decorative member includes a transmittable area for transmitting the transponder-driving radio wave," and claim 2 to call for "wherein the ornamental surface include decorative plating, and the transmittable area is formed in the part of the ornamental surface without decorative plating."

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 3, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by McConnell et al. (US 6,181,025B1).

Referring to claim 1, McConnell teaches a lock assembly 10 (i.e., a switch device) that is connected to a vehicle's ignition (i.e., actuator) and activates (i.e., drives) the ignition when an identification (ID) code received from a key's transponder matches a predetermined ID code of the vehicle's interrogator (i.e., vehicle controller) (see Col. 1, lines 20-42 and 66-67; and Col. 2, lines 1-14). McConnell's lock assembly 10, as shown in Fig. 1, comprises a plurality of components: (a) an ignition lock tumbler (not shown in the figure), which is an operation switch operated by a user for activating the ignition (see Col. 1, lines 66-67; Col. 2, lines 1-14; Col. 3, lines 52-60 and 65-67; Col. 4, lines 1-3; and Col. 5, lines 5-11); (b) bezel 20 (i.e., a decorative member) surrounding the ignition lock tumbler and having an ornamental surface formed by flat inner portion 26, rim 24, and the surface between flat inner portion 26 and rim 24; and (c) interrogator-coil circuit 70 (i.e., a communication means) adjacent to bezel 20 and transmitting a transponder-driving radio wave that causes the key's transponder to generate electromotive force and transmit the ID code (see Col. 1, lines 28-42). As shown in Fig. 1, interrogator-coil circuit 70's antenna coil 80 is a flat spiral coil 80 formed on the surface of loop 82, wherein bezel 20's flat inner portion 26 holds loop 82 firmly in place against separator plate 34 (see Col. 4, lines 21-27, 42-46, and 66-67; and Col. 5, line 1). It is understood that flat inner portion 26, which does not include rim 24, forms a transmittable area, because antenna coil 80 rests against flat inner portion 26.

Regarding claim 3, as explained in the previous rejection of claim 1, McConnell's interrogator-coil circuit 70 includes antenna coil 80.

Regarding claim 4, as shown in Fig. 1, McConnell's antenna coil 80 and the ignition lock tumbler, which is fits snuggly in rear recess 40, is arranged such that antenna coil 80's central

axis and the ignition lock tumbler's central axis substantially coincide with each other (see Col. 3, lines 33-39 and 52-60).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

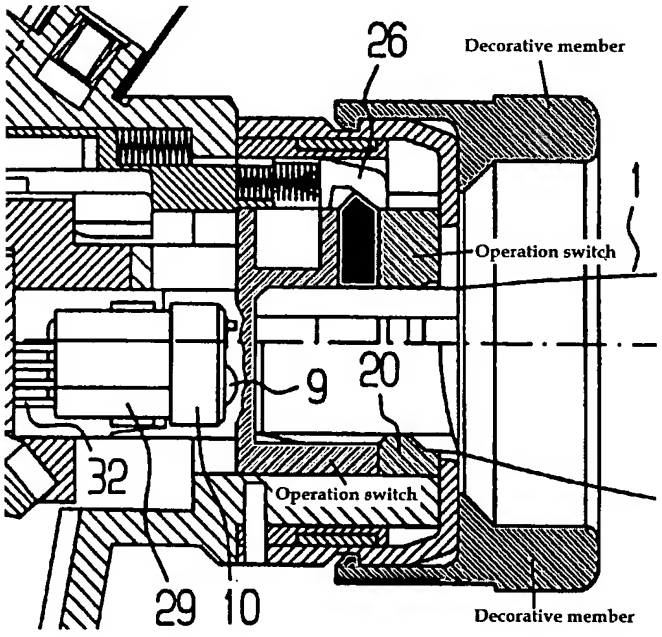
10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 8-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over McConnell et al. (US 6,181,025B1) in view of Schweiger et al. (US 6,351,206).

Referring to claims 8, 13, 10, and 16, as explained in the previous rejection of claim 1, McConnell teaches claim 8's first 3 limitations and claim 13's first and second limitations. With respect to claim 13's third limitation concerning the communication means, as shown in Fig. 1, interrogator-coil circuit 70 (i.e., communication means) is spaced from bezel 20 via a portion of the T-shaped circuit board's upright leg (see Col. 4, lines 54-65). McConnell, however, omits teaching that (1) a ferromagnetic body is arranged between interrogator-coil circuit 70 and bezel

20, as called for in claim 8's fourth limitation, that (2) interrogator-coil circuit 70 includes a ferromagnetic core with antenna coil 80 wound around it, as called for in claim 13's third limitation, and that (3) the ferromagnetic core is made of an amorphous magnetic body or ferrite, as called for in claims 10 and 16.

In an analogous art, Schweiger teaches a lock 7 that enables a vehicle's ignition (i.e., actuator) is be started (i.e., driven) when an ID code transmitted by key 1's transponder matches a predetermined ID code of the vehicle's control and evaluation unit 11 (see Col. 3, lines 56-67; Col. 4, lines 1-6 and 14-26; and Col. 6, lines 57-59). Schweiger's lock 7, as shown in Figs. 1-3, includes (a) an operation switch, which includes receptacle 8 (see figure on the left) and is operated by an operator for starting the ignition (see Col. 3, lines 46-55; Col. 4, lines 4-67; and Col. 5, lines 1-7), (b) a decorative member (see figure on the left) surrounding the operation switch, and (c) communication means 29 spaced from the decorative member and formed by lock-side receiver 9 and lock-side coil 10, which is wound around a ferromagnetic core, wherein communication means 29 transmits a transponder-driving radio wave that causes key 1's transponder to transmit its ID code, and the ferromagnetic core amplifies transponder-driving radio wave by increasing the magnetic field density (see Col. 3, lines 49-67; Col. 4, lines 1-6 and 14-26; Col. Col. 5, lines 35-43 and 55-59; and Col. 6, lines 43-48 and 57-60). Though Schweiger omits specifying that the



ferromagnetic core be made of an amorphous magnetic body or ferrite, the examiner takes Official Notice that ferromagnetic cores made of an amorphous magnetic body or ferrite are well known. Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Schweiger's ferromagnetic core such that it is made of an amorphous magnetic body, because an amorphous magnetic body has a lower melting point than pure iron and can be easily formed into a ring by injection molding or compression forming.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the McConnell's interrogator-coil circuit 70 as taught by Schweiger because disposing a ferromagnetic core inside antenna coil 80 increase the magnetic field density, thereby substantially reducing the amount of current required to generate the magnetic field (see Schweiger, Col. 5, lines 55-59). When the ferromagnetic core is inside antenna coil 80, the ferromagnetic core is arranged between interrogator-coil circuit 70 and bezel 20, as called for in claim 8, and isolated from interrogator-coil circuit 70 via housing 30's surface 44, which is made of plastic (see McConnell, Col. 3, lines 52-64); thus negative effects between interrogator-coil circuit 70, coil 80, and the ferromagnetic core, are reduced.

Regarding claim 9, McConnell teaches that interrogator-coil circuit 70 includes antenna coil 80, which has an inner circumferential surface, as shown in Fig. 1 (see Col. 4, lines 10-20). By modifying McConnell's interrogator-coil circuit 70 as taught by Schweiger, the ferromagnetic core is arranged along antenna 80's inner circumferential surface.

Regarding claim 11, as explained in the previous rejection of claim 9, McConnell's interrogator-coil circuit 70 includes antenna coil 80.

Regarding claim 12, McConnell teaches the claim's limitation, as explained in the previous rejection of claim 4.

Regarding claim 14, as shown in Fig. 1, McConnell's lock assembly 10 further includes a case formed by housing 30 and rear cover 50 (see Col. 3, lines 52-67). McConnell's bezel 20 (i.e., decorative member) snaps onto housing 30's front flange 36, and interrogator-coil circuit 70 is arranged onto housing 30's rear flange and covered by rear cover 50 (see Col. 4, lines 54-67 and Col. 5, lines 1-4).

Regarding claim 15, as shown in Fig. 1, McConnell's interrogator-coil circuit 70 and ignition lock tumbler (not shown) are arranged along a single central axis (see Col. 3, lines 33-39 and 52-60); thus interrogator-coil circuit 70's central axis and the ignition lock tumbler's central axis substantially coincide with each other.

Allowable Subject Matter

12. Claims 7 and 17-23 are allowed.

13. The following is a statement of reasons for the indication of allowable subject matter:

- Regarding claim 7, the prior art of record fails to teach or suggest a switch device comprising (1) an operation switch including an operation button and a case, (2) a coil antenna wound around the case, and (3) a decorative member having an ornamental surface that is furnished with decorative plating and is exposed, wherein the decorative member includes a transmittable area for transmitting the transponder-driving radio wave, the transmittable area being formed in a part of the ornamental surface without decorative plating.

- Regarding claim 17, the prior art of record fails to teach or suggest a switch device comprising (1) an operation switch, (2) a decorative member arranged to surround the operation switch, and (3) a communication means arranged adjacent to the decorative member, wherein the decorative member is separable from the communication means to ensure formation of a magnetic path for the transponder-driving radio wave near the operation switch.

- Regarding claim 23, the prior art of record fails to teach or suggest a switch device comprising (1) an operation switch including an operation button and a case, (2) a

coil antenna wound around the case, (3) a decorative member removably attached to the case to surround the operation button and the coil antenna, and (4) a detection switch for detecting that the decorative member has been removed from the case, wherein the coil antenna transmits the transponder-driving radio wave based on the removal of the decorative member detected by the detection switch.

14. Claim 2 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

15. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Okada (US 6,259,168) teaches a switch device comprising (a) an operation switch that includes immobilizer switch 32 (i.e., an operation button) and support 88 (i.e., a case), (b) immobilizer coil 90 wound around support 88, and (c) position indicator area 84 (i.e., a decorative member) attached to support portion 88 and surrounding immobilizer switch 32 and immobilizer coil 90 when view from the front of position indicator area 84.

- Yamamoto et al. (US 6,400,254) teach a switch device comprising (a) an operation switch, (b) communication means that includes an antenna coil, (c) and a decorative member.

- Chung (US 2003/0231100) teaches a switch device comprising (a) an operation switch, (b) communication means that includes an antenna coil, (c) and a decorative member.

- Endo et al. (US 6,992,952) teaches wrapping an antenna coil around a ferromagnetic core that is made of an amorphous magnetic body or ferrite.

⌘⌘⌘

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clara Yang whose telephone number is (571) 272-3062. The examiner can normally be reached on 9:00 AM - 7:30 PM, Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (571) 272-7308. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Please note that Art Unit 2635 is now Art Unit 2612.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CY
17 April 2006